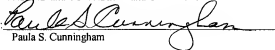


TOWNSEND and TOWNSEND and CREW LLP

By:   
Paula S. Cunningham

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Michael G. Luby

Application No.: 09/587,542

Filed: June 1, 2000

For: DYNAMIC LAYER CONGESTION  
CONTROL FOR MULTICAST  
TRANSPORT

Customer No.: 20350

Confirmation No. 6523

Examiner: Alina A. Boutah

Technology Center/Art Unit: 2143

APPELLANT'S REPLY BRIEF  
UNDER 37 CFR §41.41

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Appellant herewith submits this Reply Brief in response to the Examiner's  
Answer dated January 22, 2008 (hereafter "Answer").

The Commissioner is authorized to deduct any fee that may be due in connection  
with this Reply, and any additional fees associated with this application that might be due, to  
Deposit Account No. 20-1430.

### **1. STATUS OF CLAIMS**

Claims 1-12 are currently pending in the application. All claims stand rejected pursuant to a Final Office Action mailed May 22, 2006 (hereinafter "the Final Office Action") under 35 USC §103(a). The rejections of each of claims 1-12 are believed to be improper and are the subject of this appeal. A copy of the claims as rejected is attached as an Appendix.

### **2. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Pursuant to MPMP §1208, Applicant Submits that the grounds of rejection to be reviewed on appeal are the rejection of the claims over Vicisano and Chiu.

### **3. ARGUMENT**

The present application was first filed nearly eight years ago. Applicants have filed six amendments, two RCEs, and an appeal. Through all of that, the Examiner has failed to address the arguments and claim elements presented and simply repeats the rejection made so many times. The Examiner's Answer to an Appeal Brief is no different.

Simply put, the claims recite elements that are not present or suggested by the cited references, yet the Examiner insists on repeating, almost word for word, the same untenable rejection and does not address the many different ways that have been attempted to explain to the Examiner what is being claimed.

The Examiner continues to reject the claims under 35 USC §103(a) as being unpatentable over "TCP-like Congestion Control for Layered Multicast Data Transfer" by Vicisano et al. (hereinafter "Vicisano"), in view of U.S. Patent No. 6,505,253 issued to Chiu et al. (hereinafter "Chiu"). The Examiner concedes that Vicisano does not explicitly teach logic for reducing the sending rate of at least one of a plurality of layers over time independent of receiver feedback, but uses Chiu in asserting that such an element is known.

In the most recent Examiner's Answer to Applicant's Appeal Brief, the Examiner argues that Chiu teaches reducing a sending rate of a layer over time independent of receiver feedback in the last paragraph of page 8 of the Examiner Answer. In response to Appellant's argument, the Examiner asserts that Chiu's transmission window somehow teaches the claimed logic for reducing the sending rate of a layer. Apparently, the Examiner is asserting that the use

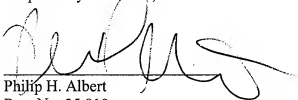
of a transmission window creates a reduction in sending rate because just after the end of the window less data is sent than just before the end of the window (because the transmitter only transmits during the window). Applicant submits that the mere use of a transmission window does not teach or suggest the claimed reducing the sending rate of at least one of a plurality of layers over time independent of receiver feedback.

The Examiner also appears to be using the teachings of Chiu at column 24, lines 34-38 to read on the claimed reducing the sending rate of at least one of a plurality of layers over time independent of receiver feedback, citing to the feedback insensitive mode described in that cite of Chiu. However, there is nothing in that cite to suggest that there is any particular reduction in sending rate in the insensitive mode, much less anything that would suggest the claimed element.

#### **4. CONCLUSION**

For the reasons extensively discussed in the Appeal Brief and in this Reply Brief, Appellant requests the reversal of the obviousness rejection of the pending claims.

Respectfully submitted,



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Date: March 24, 2008

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## **5. CLAIMS APPENDIX**

1. In a network supporting packet multicasting from a sender into the network, where hosts join and leave a multicast group by sending join and leave messages, respectively, to an access device in the network, an improvement comprising:

- a plurality of layers, wherein a layer is a logical channel that carries packets for the multicast group;
- logic for distributing multicast traffic from the sender over the plurality of layers according to a sending rate associated with each of the plurality of layers;
- logic for accepting join and leave messages at the access device from the hosts, wherein the join and leave messages are associated with one or more layers of the plurality of layers; and
- logic for reducing the sending rate of at least one of the plurality of layers over time independent of receiver feedback.

2. The network of claim 1 further comprising logic for raising the sending rate of an unused layer.

3. In a network supporting packet multicasting from a sender into the network, where hosts join and leave a multicast group by sending join and leave messages, respectively, to an access device in the network, a method comprising the steps of:

- accepting multicast join messages at the access device, wherein a join message indicates that a host beyond an interface to the access device requests membership in a layer, where a layer is a logical channel over which packets are multicast to hosts that are members of a multicast group for the layer;
- transmitting multicast packets to a plurality of layers, wherein multicast packets are transmitted by the sender on a given layer at a rate approximately equal to a sending rate associated with the layer;
- accepting multicast leave messages at an access device from hosts, wherein a leave message indicates that a host requests removal from a layer indicated in the leave message; and

reducing the sending rates for each of the layers over time independent of receiver feedback, thereby reducing a reception rate of a host that is joined to a fixed set of layers.

4. The method of claim 3, further comprising a step of offsetting a reduced reception rate at a host due to a reduced sending rate for each of the layers by the host joining one or more additional layers, if a reception rate at the host is to be maintained.

5. The method of claim 3, wherein the step of reducing the sending rates includes reducing the sending rate for a selected one of the layers to zero.

6. The method of claim 5, further comprising a step of increasing the sending rate for the selected one of the layers after an idle period has elapsed.

7. The method of claim 6, wherein the idle period is longer than a leave latency associated with the access device responding to a leave message.

8. In a network supporting packet multicasting from a sender into the network, wherein hosts join and leave a multicast layer by sending join and leave messages, respectively, to an access device in the network, a method comprising the steps of:

transmitting multicast packets to a plurality of dynamic layers at a rate approximately equal to an aggregate sending rate;

reducing a sending rate for a first one of the plurality of dynamic layers over time independent of receiver feedback; and

concurrently with the step of reducing, increasing a sending rate of at least one other of the plurality of dynamic layers, thereby maintaining the aggregate sending rate for the plurality of dynamic layers.

9. The method of claim 8, wherein a host connected to the network is able to maintain a reception rate over time by joining the at least one other dynamic layer.

10. The improvement of claim 1, wherein the logic for accepting join and leave messages receives join messages from hosts attempting to maintain a reception rate at the host

whereby the host joins one or more additional layers to maintain the reception rate and offset reduced reception rates at a host due to a reduced sending rate for each of the layers.

11. The improvement of claim 1, wherein the logic for reducing the sending rate operates to reduce the sending rate of at least one of the plurality of layers independent of congestion.

12. The improvement of claim 1, wherein the logic for accepting join and leave messages receives join messages from hosts attempting to maintain a reception rate at the host whereby the host joins one or more additional layers to maintain the reception rate and offset reduced reception rates at a host due to a reduced sending rate for each of the layers and wherein the logic for reducing the sending rate operates to reduce the sending rate of at least one of the plurality of layers independent of congestion.

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